

## IN THE CLAIMS

No amendments to the claims are requested. The currently-pending claims are:

1.-10. (Canceled)

11. (Previously Presented) A method comprising:  
dynamically processing a database to eliminate missing values in records, each record to contain a plurality of values;  
preparing a statistical summary of processed data in the database;  
constructing a database structure to hold the statistical summary;  
searching through possible relationship models to find a high-scoring network; and  
using the high-scoring network to compute a decision for a new case.

12. (Previously Presented) The method of claim 11, further comprising:  
discretizing continuous variables in the database before preparing the plurality of statistical summaries.

13. (Previously Presented) The method of claim 11, further comprising:  
modifying a relationship of the high-scoring network.

14. (Previously Presented) The method of claim 11 wherein the new case consists of values of a subset of fields of a record.

15. (Previously Presented) The method of claim 11 wherein records in the database represent bank customer transaction records, and the decision is to identify an at-risk customer of the bank.

16. (Previously Presented) The method of claim 11 wherein the statistical summary is a Bayesian model of correlations between data in records.
17. (Previously Presented) The method of claim 11 wherein the decision is one of a detection of an illegal financial transaction, a network fault diagnosis, or a prediction of a result of a pharmaceutical compound in an organism.
18. (Previously Presented) The method of claim 11, further comprising:
  - aggregating similar database records together; and
  - computing a frequency of occurrence.
19. (Previously Presented) The method of claim 18 wherein aggregating comprises:
  - preparing a plurality of hashes to cluster the database records.
20. (Previously Presented) The method of claim 11 wherein the database structure is an alternating decision tree (“ADTree”).
21. (Previously Presented) The method of claim 11 wherein the database structure comprises correlation statistics between nodes.
22. (Previously Presented) The method of claim 11, further comprising:
  - inferring a value of a non-observed variable based on a previous observation and the high-scoring network.
23. (Previously Presented) The method of claim 11, further comprising:
  - storing the high-scoring network in an eXtensible Markup Language (“XML”) format.